

## **Special aspects of preparation of microstructure images for parametrization of welding joints**

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### **Abstract**

The paper discusses the implementation areas of multifractal parameterization of microstructures for metallurgy and welding purposes. The objects of investigation are welds made by argon arc welding in the austenitic steel parts. Radiographic, spectral, microstructure analysis, parameterization of microstructures and Vickers hardness test were used. The design data were acquired with MFRDrom software on the basis of the analysis of microstructure images of welding joints made from austenitic steel. It was determined how the preparation defects of thin sections (grind and polish marks) and welding defects such as pores, cracks, influence the results of parameterization of welding joint microstructures. The relations between hardness and multifractal parameters of uniformity and orderliness were established. © IDOSI Publications, 2014.

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### **Keywords**

Hardness, Images, Microstructures, Multifractal parameterization, Orderliness, Uniformity, Welding joints